

# Cold Weather Casualties and Injuries

## Cold Weather Casualties and Injuries:

- Chilblain
  - Immersion foot (trench foot)
  - Frostbite
  - Hypothermia
  - Dehydration
  - Snow Blindness
  - Carbon Monoxide Poisoning
- Train soldiers on the proper use of cold weather clothing
  - Remember the acronym **C-O-L-D** when wearing clothing in cold weather (**C**: Keep it **Clean**; **O**: avoid **Overdressing**; **L**: wear clothing **Loose** and in layers; **D**: keep clothing **Dry**)
  - Maintain adequate hydration and ensure nutritional requirements are met

*See inside for further information*

# Cold Weather Casualties and Injuries

## Chilblain

Cause	<ul style="list-style-type: none"> <li>Repeated exposure of bare skin for prolonged periods from 20°- 60°F with high humidity (for those not acclimated to cold weather)</li> </ul>
Symptoms	<ul style="list-style-type: none"> <li>Swollen, red skin (or darkening of the skin in dark-skinned soldiers)</li> </ul>
First-Aid	<ul style="list-style-type: none"> <li>Tender, hot skin, usually accompanied by itching</li> <li>Warm affected area with direct body heat</li> <li>Do not massage or rub affected areas</li> <li>Do not wet the area or rub it with snow or ice</li> <li>Do not expose affected area to open fire, stove, or any other intense heat source</li> </ul>
Prevention	<ul style="list-style-type: none"> <li>Use contact gloves to handle all equipment; never use bare hands to handle equipment</li> <li>Use approved gloves to handle all fuel and POL* products</li> <li>In the extreme cold environment, do not remove clothing immediately after heavy exertion (PT); wait until you are in a warmer location</li> <li>Never wear cotton clothing in the cold weather environment</li> </ul>

## Hypothermia

Cause	<ul style="list-style-type: none"> <li>Prolonged cold exposure and body-heat loss. May occur at temperatures above freezing, especially when a person is wet</li> </ul>
Symptoms	<ul style="list-style-type: none"> <li>Shivering may or may not be present</li> <li>Drowsiness, mental slowness, lack of coordination. Can progress to unconsciousness, irregular heartbeat, and death</li> </ul>
First-Aid	<ul style="list-style-type: none"> <li>This is the most serious cold exposure medical emergency and can lead to death! Get the soldier to a medical facility as soon as possible!</li> <li>Even if a victim is cold and is not breathing, never assume someone is dead until determined by medical authorities!</li> <li>Strip off wet clothing and wrap victim in blankets or a sleeping bag</li> <li>Place another person in sleeping bag as an additional heat source</li> <li>For the person with unconsciousness and very low heartbeat, minimize handling of the victim so as to not induce a heart attack</li> </ul>
Prevention	<ul style="list-style-type: none"> <li>Never wear cotton clothing in the cold weather environment</li> <li>Anticipate the need for warming areas for soldiers exposed to cold, wet conditions</li> </ul>

## frostbite

Cause	<ul style="list-style-type: none"> <li>Freezing of tissue, eg.: Fingers, toes, ears, and other facial parts</li> <li>Exposure to bare skin on metal, extremely cool fuel and POL*, wind chill, and tight clothing - particularly boots - can make the problem worse</li> </ul>
Symptoms	<ul style="list-style-type: none"> <li>Numbness in affected area</li> <li>Tingling, blistered, swollen, or tender areas.</li> <li>Pale, yellowish, waxy-looking skin (grayish in dark-skinned soldiers)</li> <li>Frozen tissue that feels wooden to the touch</li> <li>Frostbite can lead to amputation. Evacuate immediately!</li> </ul>
First-Aid	<ul style="list-style-type: none"> <li>Start first-aid immediately. Warm affected area with direct body heat</li> <li>Do not thaw frozen areas if treatment will be delayed.</li> <li>Do not massage or rub affected areas</li> <li>Do not wet the area or rub it with snow or ice</li> <li>Do not expose affected area to open fire, stove, or any other intense heat source</li> </ul>
Prevention	<ul style="list-style-type: none"> <li>Use contact gloves to handle all equipment; never use bare hands to handle equipment</li> <li>Use approved gloves to handle all fuel and POL</li> <li>Never wear cotton clothing in the cold weather environment</li> <li>Keep face and ears covered and dry</li> <li>Keep socks clean and dry</li> <li>Avoid tight socks and boots</li> </ul>

## Immersion foot (trench foot)

Cause	<ul style="list-style-type: none"> <li>Prolonged exposure of feet to wet conditions at 32°-60°F. Inactivity and damp socks and boots (or tightly laced boots that impair circulation) speed onset and severity</li> </ul>
Symptoms	<ul style="list-style-type: none"> <li>Cold, numb feet may progress to hot w/shooting pains</li> <li>Swelling, redness, and bleeding</li> </ul>
First-Aid	<ul style="list-style-type: none"> <li>If you suspect trench foot, get medical help immediately</li> <li>Rewarm feet by exposing them to warm air</li> <li>Do not allow victim to walk on injury</li> <li>Evacuate victim to a medical facility</li> <li>Do not massage, rub, moisten, or expose affected area to extreme heat</li> </ul>
Prevention	<ul style="list-style-type: none"> <li>Keep feet clean and dry; change wet or damp socks as soon as possible</li> <li>Wet or damp socks should be dried out as soon as possible to allow them to be re-used</li> <li>The inside of Vapor Barrier boots should be wiped dry at least once per day, or more often as feet sweat</li> <li>Dry leather boots by stuffing with paper towels</li> </ul>

## Dehydration

Cause	<ul style="list-style-type: none"> <li>Depletion of body fluids</li> </ul>
Symptoms	<ul style="list-style-type: none"> <li>Dizziness</li> <li>Weakness</li> <li>Blurred vision</li> </ul>
First-Aid	<ul style="list-style-type: none"> <li>Replace lost water. Water should be sipped, not gulped</li> <li>Get medical treatment</li> </ul>
Prevention	<ul style="list-style-type: none"> <li>At a minimum, consume 3-6 quarts of water per day</li> </ul>

## Snow Blindness

Cause	<ul style="list-style-type: none"> <li>Burning of the cornea of the eye by exposure to intense UV rays of the sun in a snow-covered environment</li> </ul>
Symptoms	<ul style="list-style-type: none"> <li>Pain, red, watery or gritty feeling in the eyes</li> </ul>
First-Aid	<ul style="list-style-type: none"> <li>Rest and total darkness; bandage eyes with gauze</li> <li>Evacuate if no improvement within 24 hours</li> </ul>
Prevention	<ul style="list-style-type: none"> <li>Use sunglasses with side protection in a snow-covered environment</li> <li>If sunglasses are not available, use improvised slit glasses</li> </ul>

## Carbon Monoxide Poisoning

Cause	<ul style="list-style-type: none"> <li>Replacement of oxygen with carbon monoxide in the blood stream caused by burning fuels without proper ventilation</li> </ul>
Symptoms	<ul style="list-style-type: none"> <li>Headache, confusion, dizziness, excessive yawning</li> <li>Cherry red lips and mouth (in light skinned individuals), grayish tint to lips and mouth (in dark skinned individuals)</li> <li>Unconsciousness</li> </ul>
First-Aid	<ul style="list-style-type: none"> <li>Move to fresh air</li> <li>CPR if needed</li> <li>Administer oxygen if available Evacuate</li> </ul>
Prevention	<ul style="list-style-type: none"> <li>Use only Army-approved heaters in sleeping areas, and ensure that personnel are properly licensed to operate the heaters</li> <li>Never sleep in running vehicles</li> <li>Always post a fire guard when operating a heater in sleeping areas</li> </ul>

\* POL - petroleum, oil, lubricants